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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,825	06/23/2005	Toshiyuki Kawaguchi	P/2850-111	8886

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EXAMINER	
ROBINSON, ELIZABETH A	
ART UNIT	PAPER NUMBER
1794	
MAIL DATE	DELIVERY MODE
11/10/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/540,825	KAWAGUCHI ET AL.	
	Examiner	Art Unit	
	Elizabeth Robinson	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-45* is/are pending in the application.

4a) Of the above claim(s) *29-44* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-28 and 45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 June 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7-8-2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3-28 and 45 are currently being examined.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 26, 2008 has been entered.

Drawings

The drawings are objected to because there is no definition of the acronym “MSL” in Figures 33, 35, 37, 39 and 41. It would be acceptable to change the titles in these figures to remove the words "of MSL", as was done for Figures 21-26. The changes to Figures 21-26 are approved.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

Claims 1, 3-13, 17, 18, 21 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Senda et al. (US 5,990,417).

Regarding claims 1, 3-11 and 45, Senda teaches an electromagnetic noise absorbing material (Column 1, lines 7-10) comprising a binding agent (non-magnetic insulating material) and a magnetic material (alloy magnetic substance) (Column 13, lines 3-17). The binding agent and the magnetic material are integrated with each other into a composite layer (Column 11, lines 38-48 and Figure 10). Senda (Column 11, lines 38-56) teaches that the composite layer can be formed by sputtering, a physical vapor deposition process. This process disperses the alloy magnetic substance into the non-magnetic insulating substance. Senda (Column 12, lines 6-53) teaches that using a vapor deposition technique allows for adjustment of particle size and spacing that allows choice of noise suppression and electrical insulation. Senda (Column 12, lines 30-53) further teaches that the skin depth of the alloy magnetic substance is 0.16 to 1.6 μm.

This range either is fully encompassed by or overlaps the range of the instant claims. The binders and magnetic materials (Column 13, lines 3-17) include many of the same materials as in the instant application. A noise suppressor formed of the same materials and in the same manner would inherently have the same properties and structure and thus, meet the limitations of the instant claims. While Senda does not explicitly teach the particle energy of the vapor deposition, this is a process limitation. The patentability of a product is independent of how it was made. Ex parte Jungfer 18 USPQ 1796, 1800 (BPAI 1991); Brystol-Myers Co. v. U.S. International Trade Commission 15 USPQ 2d 1258 (Fed. Cir. 1989). The burden is on applicants to show product differences in product by process claims. In re Thorpe 227 USPQ 964 (Fed. Cir. 1985); In re Best 195 USPQ 430 (CCPA 1977).

Regarding claim 12, Senda (Column 18, line 66 through Column 19, line 62 and Figure 29) teaches a structure that comprises a plurality of overlapping layers of electromagnetic wave absorbing sheets that can be formed from the electromagnetic noise absorbing material of the second embodiment (Figure 10).

Regarding claim 13, Senda (Column 13, lines 3-8) teaches that the binding agent can be a polyethylene naphthalate, polyethylene teraphthlate, polyimide resin or a photoresist.

Regarding claim 17, the structure of Senda can have a plurality of layers of the electromagnetic noise absorbing material. The alloy magnetic substance is thermally conductive and all resins have some degree of thermal conductivity. Thus one of the layers can be considered to be a heat conduction layer.

Regarding claim 18, one of the layers can be considered to be a support layer.

Regarding claim 21, the alloy magnetic substance will have some degree of electrical conductivity.

Claims 14 -16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Senda et al., in view of Farris et al. (The Characterization of Thermal and Elastic Constants for an Epoxy Photoresist SU8 Coating). As stated above, Senda teaches a structure that inherently should meet the limitations of claim 1. Senda teaches that the binding agent can be a photoresist, but does not teach a specific photoresist. Farris (Pages 4793-4799) teaches the properties of a common photoresist. It would be obvious to one of ordinary skill in the art to choose a commonly available photoresist as the photoresist of Senda.

Regarding claim 14, epoxy resins are hardening resins.

Regarding claim 15, Farris (Page 4797) teaches that the shear modulus of the cured resin is 1.21 GPa (1.21×10^9 Pa).

Regarding claim 16, Farris does not teach the shear modulus for the uncured resin, but it should be significantly lower and meet the limitations of the instant claim

Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Senda et al., in view of Inomata et al. (JP 2000-196281).

Regarding claim 19, as stated above, Senda teaches a noise suppressor comprising a polymeric binder with magnetic particles that inherently should meet the

limitations of claim 1. Senda does not teach adding a flame retarding agent to the noise suppressor. Inomata (Paragraph 27) teaches an electromagnetic wave absorber with a composite layer that comprises soft magnetic particles in a polymer binder (Paragraph 15). The composite layer can also comprise a phosphorous flame retarding compound, in order to make the layer fire proof (Paragraph 19). Inomata (Paragraphs 7-9) teaches that the flame retardant should be halogen and antimony free for environmental reasons. It would be obvious to one of ordinary skill in the art to add the flame retardant of Inomata, to the noise suppressor of Senda, in order to make the noise suppressor fire proof.

Regarding claim 20, since the noise suppressor of Senda can have a plurality of layers of the electromagnetic noise absorbing material, one of these layers can be considered to be the base layer and would also have the flame retardant agent.

Claims 1, 3-18, 21-24, 27, 28 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (US 5,864,088), in view of Senda et al.

Regarding claims 1, 3-6, 11 and 45, Sato (Column 3, lines 55-65, and Figure 1) teaches an electromagnetic interference suppressor, which has a base material containing a binder (organic binder 4) and a composite layer consisting of the binding agent (organic binder 4) and a magnetic material (soft magnetic powder 3) uniformly dispersed in the binder. The base layer can be either the lower layer 2 in Figure 1 or a portion of one of the layers 2, since it is not required that there be no magnetic material in the base material. Alternately, the base layer can be layer 1 as in Figures 3 and 4,

since it comprises the same binder 4 as in the composite layer (Column 4, lines 28-42). Sato does not teach a composite layer formed by physical vapor deposition. Senda (Column 11, lines 49-56) teaches that the composite layer can be formed by either physical vapor deposition or by dispersing the magnetic material in a binder. Senda (Column 12, lines 6-53) further teaches that using a vapor deposition technique allows for adjustment of particle size and spacing that allows choice of noise suppression and electrical insulation. It would be obvious to one of ordinary skill in the art to use the method of Senda, to form the composite layer of Sato, in order to be able to control the level of noise suppression and electrical insulation of the composite layer. As stated above, a noise suppressor formed of the same materials and in the same manner would inherently have the same properties and structure and thus, meet the limitations of the instant claims. While Senda does not explicitly teach the particle energy of the vapor deposition, this is a process limitation. As stated above, the patentability of a product is independent of how it was made. The burden is on applicants to show product differences in product by process claims.

Regarding claims 7-10, Senda (Column 12, lines 30-53) teaches that the skin depth of the alloy magnetic substance is 0.16 to 1.6 μm. This range either is fully encompassed by or overlaps the range of the instant claims.

Regarding claim 12, Senda (Column 18, line 66 through Column 19, line 62 and Figure 29) teaches a structure that comprises a plurality of overlapping layers of electromagnetic wave absorbing sheets that can be formed from the electromagnetic noise absorbing material of the second embodiment (Figure 10).

Regarding claim 13, Sato (Column 5, lines 46-52) teaches that the binder can be a resin or a rubber.

Regarding claim 14, Sato (Column 5, lines 46-52) teaches that the binder can be a thermosetting (hardening) resin.

Regarding claims 15 and 16, Sato (Column 5, lines 46-52) teaches that the binder can be a rubber material. Rubbers have an elastic modulus of shear that meets the limitations of the instant claims.

Regarding claim 17, Sato (Column 4, lines 28-34) teaches that the noise suppressor can be formed with a layer 1 that comprises a conductive powder 8. The conductive powder (Column 5, lines 39-45) can be a metal powder, which would be thermally conductive.

Regarding claim 18, Sato (Column 4, lines 35-42) teaches that the noise suppressor can also comprise a non-conductive base member (support layer).

Regarding claims 21 and 22, as stated above, layer 1 can be considered to be the base layer. Layer 1 can comprise metal powder or conductive carbon black.

Regarding claims 23 and 24, the layer 1 can be a conductive plate, a conductive mesh plate or a textile of conductive fiber (Column 4, line 66 through Column 5, line 5). Alternately, the layer 1 can comprise a non-conductive base, and a metal, magnetic metal, conductive carbon, or organic conductive material (Column 5, lines 32-38) formed by sputtering or vacuum deposition (Column 5, lines 53-58).

Regarding claim 27, Sato (Column 4, lines 58-65) teaches that the layer 2 can further comprise dielectric powder 11.

Regarding claim 28, Sato (Column 5, lines 59-67) teaches that the dielectric powder can be a barium titanate series ceramic, a titanium oxide-zirconium oxide series ceramic, or a lead perovskite series ceramic.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al., in view of Senda et al. as applied to claim 24 above, and further in view of Okamura et al. (US 6,104,530). As stated above, the composition of Sato, with a composite layer formed in the manner of Senda, provides an electromagnetic noise suppressor that meets the limitations of claim 24 and can comprise a non-conductive base, and a metal, magnetic metal, conductive carbon, or organic conductive material layer formed by sputtering or vacuum deposition. Sputtering is a physical deposition method. Sato does not specify the thickness of the metal layer. Okamura (Column 7, lines 22-40) teaches an electromagnetic wave absorbing material comprising electrically conductive thin metal film layers. Okamura (Column 11, line 45 through Column12, line 8) further teaches that the metal film is preferably formed by sputtering, in particular magnetron sputtering, since this technique allows easy control of film thickness. The thickness of the metal film is taught to be 4 to 30 nm in order to provide optimal electric conductivity of the layer (Column 10, lines 34-37). This range overlaps the thickness of the instant claim. It would be obvious to one of ordinary skill in the art to use metal film thickness as taught by Okamura for the noise absorber of Sato, in order to have optimal conductivity for the conductive metal layer of the suppressor.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al., in view of Senda et al. and Okamura et al. as applied to claim 25 above, and further in view of Kadokura et al. (US 4,784,739). As stated above Sato teaches that the metal layer can be formed by sputtering and Okamura teaches that, in particular, magnetron sputtering is preferred. They do not explicitly teach opposing target type magnetron sputtering as the process. Kadokura (Column 1, lines 8-24) teaches that opposed target type magnetron sputtering is effective for forming a thin, uniform metallic film and for easily controlling the thickness of the film. It would be obvious to one of ordinary skill in the art to use opposing target type magnetron sputtering as the sputtering method, in order to easily and uniformly form the thin metallic layer of the suppressor

Double Patenting

Claims 1, 7-10, 13, 14 and 45 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, 5, 7, 13 and 14 of copending Application No. 10/538,132. Although the conflicting claims are not identical, they are not patentably distinct from each other because the structure of the noise suppressor is the same. Since the structure is the same, the properties, such as surface resistivity, should inherently be the same. As stated above the particle energy for the physical vapor deposition is a process limitation.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

Applicant's arguments filed September 26, 2008 have been fully considered but they are not persuasive.

Applicant argues that the noise suppressor of Senda et al. does not have the structure of the noise suppressor of the instant claims. However as stated above, it appears that the methods and materials of Senda can be substantially the same as in the instant application and should thus, result in the same structure. As stated above, while Senda does not teach the particle energy range for deposition, this is a process limitation. Applicants have not shown that the structure of Senda is not the same as in the instant application. Applicants have not shown that vapor deposition with the particle energy of instant claims 1 and 45 results in a different structure than that taught by Senda. A noise suppressor with the same structure would inherently have the same properties such as surface resistivity, transmission attenuation, etc.

Due to amendments to the claims, the claim objections and 35 U.S.C. 112, second paragraph rejections from the May 27, 2008 Office Action are withdrawn.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Robinson whose telephone number is (571)272-7129. The examiner can normally be reached on Monday- Friday 8 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ear
/E. R./
Examiner, Art Unit 1794

/Carol Chaney/
Supervisory Patent Examiner, Art Unit 1794